

L 14989-65 EWT(1)/EWP(m)/EWA(d)/FCS(k)/EWA(1) Pd-4 AFWL/AEDC(a)/SSD/ASD(a)-5/
ASD(f)-2/ASD(p)-3/AFTC(a)/AFETR/ESD(gs)/ESD(t)

ACCESSION NR: AP5000270

S/0040/64/028/006/0996/1007

AUTHORS: Ry*zhov, O. S. (Moscow); Shefter, G. M. (Moscow)

TITLE: On the effect of viscosity and thermal conductivity on the structure of
compressible flow |

SOURCE: Prikladnaya matematika i mekhanika, v. 28, no. 6, 1964, 996-1007

TOPIC TAGS: compressible gas flow, viscous flow, thermal conductivity, unsteady
flow, Navier Stokes equation, wave propagation, transonic flow, asymptotic solution,
thermodynamic law

ABSTRACT: The study consists of a two-part investigation of dissipative effects on
the structure of compressible gas flow. In part (1), using Navier-Stokes equations
and the laws of thermodynamics, asymptotic equations are derived satisfying a flow
of the "short wave" type propagation in viscous heat-conducting gas. The flow is
assumed to be 2-dimensional and unsteady. A moving system of coordinates is
introduced, $x = \xi t$, $y = \eta t$, $t = t$, where

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$$\xi = a_0 (1 + \Delta_0 \delta), \quad \eta = a_0 \theta_0 \delta, \quad t = \mu_0 \tau_0 \tau / \rho_0 a_0^2$$

$$v_x = a_0 M_0 u, \quad v_y = a_0 N_0 v$$

$$p = \rho_0 a_0^2 (p_0 / \rho_0 a_0^2 + M_0 P), \quad \rho = \rho_0 (1 + M_0 R)$$

$$T = T_0 (1 + M_0 \Omega), \quad a = a_0 (1 + M_0 A),$$

and Δ_0, M_0, N_0 are small compared to unity. Short waves are characterized by the assumption that the magnitude of velocity and flow gradient in the direction of wave propagation exceed those in the transverse direction, or $N_0 \ll M_0, \Delta_0 \ll \theta_0$. This leads to the simplified set of equations

$$R = u, \quad P = u, \quad \Omega = \frac{\gamma_0 - 1}{a_0 T_0} u, \quad \frac{N_0}{\Delta_0} \frac{\partial v}{\partial \delta} = \frac{M_0}{\theta_0} \frac{\partial u}{\partial \delta}$$

$$\tau \frac{\partial u}{\partial \tau} + \left[\frac{M_0}{\Delta_0} (u + A) - \delta \right] \frac{\partial u}{\partial \delta} - \theta \frac{\partial u}{\partial \theta} + \frac{1}{2} \frac{N_0}{M_0 \theta_0} \left[\frac{\partial v}{\partial \delta} + \frac{(k-1)v}{\theta} \right] - \frac{1}{2\tau_0 \Delta_0^2 \tau} \left[1 + \frac{(\gamma_0 - 1)\gamma_0}{\mu_0 c \rho_0} \right] \frac{\partial^2 u}{\partial \delta^2} = 0$$

which are further modified by assuming a perfect gas and

$$\Delta_0 \sim M_0, \quad \frac{N_0 \theta_0}{M_0^2} \sim 1, \quad \tau_0 M_0^2 \sim 1, \quad \frac{N_0}{M_0 \theta_0} \gtrsim 1$$

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lead to

$$\frac{\partial u}{\partial \theta} = \frac{\partial v}{\partial \delta}, \quad \tau \frac{\partial u}{\partial \tau} + (m_0 u - \delta) \frac{\partial u}{\partial \delta} - \delta \frac{\partial u}{\partial \theta} + \frac{1}{2} \left[\frac{\partial v}{\partial \theta} + \frac{(k-1)v}{\delta} \right] -$$

$$- \frac{1}{2\tau} \left(1 + \frac{\gamma_0 - 1}{N_{Pr}} \right) \frac{\partial^2 u}{\partial \delta^2} = 0 \quad \left(N_{Pr} = \frac{\mu c_p}{\kappa} = \frac{(\gamma/2\lambda + \zeta) c_p}{\kappa} \right).$$

Here, the potential function $\Phi(\delta, \theta, \tau)$ is introduced and a new set of equations is obtained which leads to the asymptotic dimensions for the region where the dissipative effects are significant. In part (2) a steady-state transonic flow is discussed. The investigation considers the dissipative effects on the asymptotic flow curves for profiled and body-of-revolution geometries in a sonic flow at infinity. The equations used are analogous to those of part (1), with the exception that the flow parameters are related to critical conditions or

$$x = \frac{\mu_0 \Delta_0}{\rho_0 a_0} x^0, \quad y = \frac{\mu_0 \delta_0}{\rho_0 a_0} y^0, \quad t = \frac{\mu_0 t_0}{\rho_0 a_0^2} t^0.$$

The corresponding flow equations take the form

$$\frac{\partial u}{\partial y} = \frac{\partial v}{\partial x}, \quad \frac{\partial u}{\partial t} + u \frac{\partial u}{\partial x} - \frac{\partial v}{\partial y} - \frac{(k-1)v}{y} - \frac{\partial^2 u}{\partial x^2} = 0.$$

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For the steady-state case the potential $\varphi(x,y)$ is given in the form $y^{3n-2} (x/y^n)$ where $n = 4/5$ corresponds to a profiled body, and $n = 4/7$, to a body of revolution. A set of equations is obtained where it is shown that for $n = 2/3$ the dissipative terms become significant. It is further shown that in the plane case, F. I. Frankl's solution (Issledovaniya po teorii kryyla beskonchnogo razmakha, dvizhushchegosya so skorost'yu zvuka, Dokl. AN SSSR, 1947, t.57, No. 7) describes correctly the transonic flow of ideal gases away from the profiled body. For transonic flow over bodies of revolution, the asymptotic flow pattern in a viscous and heat-conducting gas departs from the ideal flow calculations. "The authors express their deep gratitude to S. A. Kristianovich for his evaluation of this work." Orig. art. has: 40 equations.

ASSOCIATION: none

SUBMITTED: 20Jul64

ENCL: 00

SUB CODE: ME, TD

NO REF SOV: 008

OTHER: 010

Card 4/4

BANNIKOV, D.P.; SHEFTER, S.A., redaktor; KANDEL', Ye.A., inzhener, retsenzent.
BELYKH, B.P., dotsent, retsenzent.

[Mining electric engineering] Gornaya elektrotehnika. Sverdlovsk,
Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii,
1953. 312 p. (MLRA 7:7).
(Electricity in mining)

S/016/62/036/001/016/017
P110/B101

AUTHORS: Dement'yeva, M. I., Dobychin, B. P., and Shefter, V. Ya.
TITLE: Use of coarsely porous glass for gas-liquid chromatography
EXPIRICAL: Zhurnal fizicheskoy khimii, v. 36, no. 1, 1962, 228 - 229

TEXT: The glass to be tested for its suitability as a carrier substance for gas-liquid chromatography was prepared as follows: sodium borosilicate glass of the type UB-1 (DV-1) was kept at 650°C for 24 hrs, and at 570°C for 72 hrs, crushed, and the grain fraction between 0.25 and 0.5 mm in diameter was first treated with 3 N HCl at 50 - 55°C for 24 hrs. After rinsing, further treatment was conducted with 0.5 N NaOH at 16°C for 12 hrs. The pores of the glass were 600 - 900 Å large, and the specific surface was 10 - 14 m²/g. The crushed glass, rinsed and dried at 120°C, was treated with triethyleneglycol-n-butyric acid ester dissolved in ethyl ether. Pentane-isopentane mixtures were separated chromatographically. Parallel experiments were conducted with Kieselguhr, diatomite brick from the Intenskoy Zavod (Inza Plant), and with the US preparations Chromosorb and Staphagel. The separation factor was 1.1 - 1.2 for all carrier

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Use of coarsely porous glass.

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3112/E101

substances. In order to characterize the efficiency of the individual carriers, the degree of separation (a ratio of the distance between the peaks to the height of the lowest peak) had to be introduced as an auxiliary quantity. For coarsely porous glass it is 1.0, and for the remaining substances it is 0.1 - 0.7. Coarsely porous glass is therefore suitable for gas-liquid chromatography, owing to the uniformity of pores and to the absence of fine pores. There are 1 table and 2 Soviet references.

ASSOCIATION. Vsesoyuznyy nauchno-issledovatel'skiy institut nefte-
khimicheskikh protsessov (All-Union Scientific Research
Institute of Petrochemical Processes)

DATE: June 11, 1961

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SHEFTER, YA. I.

Windmills

"High-speed windmills." S. B. Perli. Reviewed by YA. I. Shefter, I. V. Rozhdestvenskiy. Sel'khoz mashina no. 5, 1952.

Monthly List of Russian Accessions, Library of Congress, August 1952 UNCLASSIFIED

1. SHEFTER, YA. I., Eng., KOLODIN, V.N.
2. USSR (600)
4. Windmills
7. Shortcomings of the regulator of windmill model D-18, Sel'khoz mashina No. 12, 1952.
9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

SHEFTER, N.I., Engineer; ROZHDESTVENSKIY, I.V., Engineer.

Use of stepless transmission in wind-power units. Sel'khoz mashina no.9:6-11
S '53.

(MLR 6:9)

(Windmills)

1954, 11. 1.

Dissertation: "Investigation of a Stabilizer-Type Wind Motor With an Inertial Accumulator."
Cand Tech Sci, Joint Sci Council of the All-Union Sci Res Inst of Mechanization of Agriculture (VIM) and All-Union Sci Res Inst of Electrification of Agriculture (VIESKh). 27 Apr 54.
(Vechernyaya Moskva, Moscow, 15 Apr 54)

SO: SUM 243, 19 Oct 1954

SHEFTER, Ya.I., kandidat tekhnicheskikh nauk; ORLOV, V.A., inzhener

Some problems of statics and dynamics of the centrifugal regulating device for the D-18 windmill. Sel'khoz mashina no.5:17-22 My '55.

(MLRA 8:6)

1. Vsesoyuznyy institut mekhanizatsii sel'skogo khozyaystva.
(Windmills)

SEKTOROV, Vladimir Rafailovich; SHEFTER, Yakov Iosifovich

[Windmills on livestock farms] Vetrostilovye ustanovki na zhivotnovodcheskikh fermakh. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1956.

79 p.

(MLRA 10:9)

(Windmills) (Stock and stockbreeding)

Translation from: Referativnyy Zhurnal, Geografiya, 1957, Nr 1,
p. 55 (USSR)

14-1-506

AUTHOR: Shefter, Ya. I.

TITLE: Structure of Wind Current (O strukture vetrovogo potoka)

PERIODICAL: Tr. Vses. n.-i. in.-ta mekhaniz. s. kh., 1956, Nr 22,
pp. 46-60

ABSTRACT: The results are given of studies made in 1952 and 1953 using several anemometers, including some with low inertia, to solve certain problems connected with wind-generated power. It was determined that the structure of the wind current measured at a single point does not extend to all the circumference of the area swept by the wheel of the wind-driven power generator. As a rule, small gusts at different point of the surface coincide neither in magnitude nor time. At the same time, longer clocking (about 10 seconds) of wind velocity, commensurate with surfaces swept by the wheel, is characteristic for larger areas. The gusts of wind current de-

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SOV/112-57-6-12108

Translation from: Referativnyy zhurnal. Elektrotehnika, 1957, Nr 6,
pp 55-56 (USSR)

AUTHOR: Shefter, Ya. I.

TITLE: Use of Inertial Accumulators in Windmills
(Primeneniye inertsionnykh akkumulyarov v vetroagregatakh)

PERIODICAL: Tr. Vses. n.-i. in-ta mekhaniz. s. kh., 1956, Vol 22, pp 61-91

ABSTRACT: Small-capacity (10-30 kw) windmills operate, as a rule, with a thermal reserve. The use of storage batteries is not economical. However, to smooth out windmill power pulsations, it is very expedient to use an inertial buffer accumulator that has a simple construction and a small weight per unit of stored energy. The operation of an inertial accumulator was investigated in conjunction with a type D-18 windmill that has a centrifugal aerodynamic regulation. The inertial accumulator is, in fact, a 1.5-t steel disk rotating at 1,000 rpm in a housing and coupled with the windmill by means of a freewheeling clutch. Energy transmission is possible only from the motor to the accumulator

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SOV/112-57-6-12108

Use of Inertial Accumulators in Windmills

disk, which makes the accumulator different from a simple flywheel that can receive energy from or give it to a motor. An inertial accumulator used with a windmill provides the following advantages: (1) the possibility of operating an individual windmill with a load corresponding to the **average** available capacity; (2) an increase in annual energy production; despite the additional losses in the accumulator, the potential annual production of a windmill with an average annual wind velocity of 5 m/sec increases by 20%, according to the author; the time of operation of the reserve prime mover decreases by 700 hours per year; (3) a reduction of overloads in the mechanical transmission of the windmill, which permits a lighter construction of the windmill; (4) the utilization of low average speeds of the wind that prevails during the year; i. e. , an increase in the annual operating time of the windmill ; (5) a windmill can take peak loads exceeding its average capacity; (6) improvement in operating conditions and decrease in wear and repairs of the reserve mover. The results of the above experiment permit recommending inertial-accumulator-type

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SOV/112-57-6-12108

Use of Inertial Accumulators in Windmills

windmills for wide use in agriculture. Utilization of the inertial-accumulator can be increased if a stepless transmission is introduced between it and the generator. Bibliography: 8 items.

V.R.S.

Card 3/3

SHEFTER, Ya.I., kand.tekhn.nauk

Using windmills for the mechanization of labor in livestock
farming. Zhivotnovodstvo 19 no.12:71-74 D '57. (MIRA 10:12)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut elektrifikatsii
sel'skogo khozyaystva.

(Windmills)

SHEFTER, Ya.I., kandidat tekhnicheskikh nauk.

Concurrent use of windmills and heat engines for producing electric energy. Dokl. Akad. sel'khoz. 22 no.6:44-48 '57. (MIRA 10:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mekhanizatsii sel'skogo khozyaystva. Predstavlena akademikom W.A. Zheligovskim.
(Electric power plants) (Windmills)

241111R, Ya. I

28-58-1-22/34

AUTHOR: Shefter, Ya.I., Candidate of Technical Sciences

TITLE: About the Basic Parameters of Windmills (Ob isnovnykh parametrakh vetroustanovok)

PERIODICAL: Standartizatsiya, 1958, # 1, pp 60-61 (USSR)

ABSTRACT: The "GOST 2656-55"-standard for basic parameters and types of windmills is critisized. Inconsistencies in stipulations concerning the rated loadings, the maximum wind speeds in various regions, the diameters and non-interchangeability of the wind-driven wheels and parts, etc, are pointed out, and practical examples of these inconsistencies are indicated. It is said that many USSR engines for windmills have a weight/power unit ratio 2 to 3 times higher than the best foreign wind engines.

The author is of the opinion that the weight of engines can be reduced considerably and suggests corresponding amendments to the state standard.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut mekhanizatsii sel'skogo khozyaystva (All-Union Scientific-Research Institute for Mechanization of Agriculture)

AVAILABLE: Library of Congress
Card 1/1

SHEFTER, Ya.I., kand.tekhn.nauk; ROZHDESTVENSKIY, I.V., kand.tekhn.nauk

Problems in calculating strength and designing high-speed wind-driven engines. Trakt. i sel'khoz mash. 8:19-27 Ag '58.

(MIRA 11:8)

(Windmills)

SHEFTER, Ya. I., kand. tekhn. nauk.

Basic parameters for windmills. Standartizatsia 22 no.1:60-61
Ja-P '58. (MIRA 11:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mekhanizatsii
sel'skogo khozyaystva.

(Windmills)

GLUSHCHENKO, Vladimir Petrovich; KARMISHIN, A.V., inzh., retsenzent;
SHEFTER, Ya.I., kand.tekhn.nauk, red.; SERDYUK, V.K., red.izd-va

[Using windmills in agriculture] Primenenie vetrodvigatelei v
sel'skom khoziaistve. Kiev, Gos.nauchno-tekhn.izd-vo mashino-
stroit.lit-ry, 1959. 97 p. (MIRA 13:6)
(Windmills).

8(5)	PHASE I BOOK EXPLOITATION	SOV/2570
	Academiya nauk SSSR, Energeticheskii Institut	
	Voprosy vostochnerski (Problems in Wind Power Engineering)	
	Moscow, Izd-vo AN SSSR, 1959. 135 p. Errata slip inserted.	
	1,700 copies printed.	
	Ed. of Publishing House: V. N. Golovko; Tech. Ed.: I. N. Oseva; Editorial Board: Ye. M. Porev, Corresponding Member, VASKhNIL, Professor (Resp. Ed.); D. N. Bystritskiy, K. P. Vashnevskiy, A. V. Karmashin, V. R. Sektorev, V. Ye. Fedotov, M. G. Frankfort, G. I. Sholomovich.	
	PURPOSE: The book is intended for power engineers, scientists, and research workers engaged in wind power engineering.	
	COVERAGE: These articles discuss aspects of wind power utilization. Individual papers treat the aerodynamic properties of already existing windmills, the construction of new types of windmills, wind electric power stations, and efficient wind electric and wind-pumping units. The theory on the control of high-speed windmills is also discussed. The Tashkent Central Scientific Research Laboratory for the Study of Windmills is reported to be working on the development of a 400 kW wind - electric station in parallel operation with several stations with common bases to supply electricity to rural areas. References accompany each article.	
	Shetler, Ya. I. Studying the Operation of the D-18 Windmill With an Inertia Accumulator	66
	Koshchukin, V. V. The Problem of Limiting Power Indexes of a Wind-Electric Unit With Hydrogen Storage of Wind Energy	82
	Frankfort, M. G. Computing the Overloading of High-Speed Wind Mills During Wind Gusts and Squalls	90
	Asanov, A. I. A Method for Determining the Power of a Wind-Electric Station in a Non-Wind Power System	106
	Sabinin, G. Kh. On the New Scheme of a Wind-Electric Station With Pneumatic Power Transfer	118
	Sul'z, P. A. Use of Wind-Electric Units for Providing Energy to Rural Radio Centers	128
	Card 3/3	

SHEFTER, Ya., kand. tekhn. nauk.

Using wind power for farm mechanization. Nauka i pered. op. v
sel'khoz 9 no.10:20-23 0 '59 (MIRA 13:3)
(Wind power) (Farm mechanization)

SHEFTER, Yakov Iosifovich, kand.tekhn.nauk; ROZHDESTVENSKIY, I.V., kand.
tekhn.nauk; PECHKOVSKIY, G.A., inzh.; SMELYANSKIY, V.A., red.;
SILIN, V.S., red.; PEVZNER, V.I., tekhn.red.

[Assembling, maintaining, and repairing wind-driven machinery.]
Montazh, ekspluatatsiya i remont vetroustanovok. Moskva, Gos.
izd-vo sel'khoz.lit-ry, 1960. 301 p. (MIRA 13:5)
(Windmills--Maintenance and repair)

SHEFTER, Ya., kand.tekhn.nauk

The wind should not blow for nothing. Izobr.i rats. no.9:22-23 S
'60. (MIRA 13:10)

(Windmills)

SHEFTER, Ya.I.

Useful work of the wind. Priroda 51 no.10:57 0 '62.

(MIRA 15:10)

(Soviet Central Asia—Wind power)

SHEFTER, Ya.I.; KHELLENOV, O.B., kand. tekhn. nauk

Windmills for pumping water in pastures and the system of
their maintenance. Gidr. i mel. 15 no.9:41-46 S '63.
(MIRA 17:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut elektri-
fikatsii sel'skogo khozyaystva (for Shefter). 2. Turkmenskiy
nauchno-issledovatel'skiy institut zemledeliya (for Khellenov).

SHEFTER, Ya.I.

Using windmills in agriculture. Biul.tekh.-ekon.inform.Gos.nauch.-
issl.inst.nauch.i tekhn.inform. 16 no.7:28-33 '63. (MIRA 16:8)
(Windmills)

СООБЩЕНИЕ, полученное из источника

Об использовании пневматического привода в ветроэнергетических насосах. Трехк. 1
содержит: № 2028-31 F '65. (MIRA 18:4)

1. Всесоюзный научно-исследовательский институт электрификации
сельского хозяйства.

ACC NR: AF000017 (A, N) SOURCE CODE: UR/0413/66/000/023/0. 1/0120

INVENTOR: Shafter, Ya. I.; Alyab'yev, D. V.

AND: None

TITLE: A single-chamber pneumatic displacement pump. Class 59, No. 18912
[announced by the All-Union Scientific Research Institute for Electrification of
Agriculture (Vsesoyuznyy nauchno-issledovatel'skiy institut elektrifikatsii
sel'skogo khozyaystva)]

SOURCE: Izobreteniya, promyshlennyye obratzysy, tovarnyye znaki, no. 23, 1966, 130

TOPIC TAGS: pneumatic device, fluid pump

ABSTRACT: This Author's Certificate introduces a single-chamber pneumatic displacement pump. The closed chamber of the pump is submerged in the fluid to be transferred and communicates alternately with a compressed air receiver and with the atmosphere or with the suction line of a compressor by using an air distributor. This distributor is controlled by a device which produces pulses for valve reversal depending on the pressure in the receiver. The efficiency and operating reliability of the pump are improved by making the air distributor in the form of a double-seated spring loaded valve mounted in a cavity permanently connected to the closed pump chamber. An automatic pressure regulator based on Author's Certificate No. 19019 is used as the device for producing pulses.

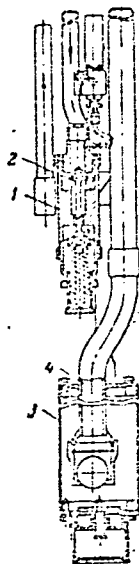
UDC: 621.691.21

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0930

2735

ACC NR: AP7002617



1--air distributor valve; 2--double-seated valve; 3--pump chamber; 4--cavity

SUB CODE: 13/ SUBM DATE: 15May64

Card 2/2

SHEFTER, Ye.A., zasluzhennyy vrach RSFSR

Method for the surgical treatment of cysts of the pancreas.
Khirurgiya 35 no.3:32-37 Mr '59. (MIRA 12:8)

1. Iz khirurgicheskogo otdeleniya (zav..Ye.A.Shefter) 2-y
Kaluzhskoy gorodskoy bol'nitsy (glavnyy vrach N.V.Buyal'skiy).
(PANCREAS, cysts
surg. technic (Rus))

SHEFTOLOVICH, V.

Revolving semigantry beam cranes. Metallurg 8 no.7:39 J1 '63.
(MIRA 16:8)

(Cranes, derricks, etc.)

1955, No. 1.

Method of Repair and Strengthening of Overhead Crane Tracks (Soviet), 1955, No. 1, p. 10.

The brochure briefly presents the general requirements for overhead crane tracks, describes various methods of strengthening overhead crane rails by metal and ferroconcrete plating, methods of repair and leveling of tracks, and includes recommendations on accident prevention for working on overhead crane tracks.

The brochure is intended for foremen and workers employed in the operation and maintenance of overhead crane tracks.

PG: Perestroyka (Soviet edition), No. 17, 1955, Moscow, (U-2472)

SHMEL'N, Nikolay Vasil'yevich; SHEGAL, Abram Markovich, glav.
mekhanik; RAZNIKOV, P., red.; FOKHLEKINA, M., tekhn.
red.

[Overall mechanization on building sites] Kompleksnaia
mekhanizatsiia na stroike. Moskva, Mosk. rabochii, 1962.
34 p. (MIRA 16:10)

1. Glavnyy inzhener tresta "Mosstroymekhanizatsiya" no.7
(for Shmelev).

(Construction equipment)

SHEGAL, A.V., inzhener, laureat Stalinskoy premii.

Installation of metal construction in medium building structures. Mekh.trud.
rab. 7 no.9:27-31 S '53.

(MLBA 6:9)

(Building, Iron and steel)

SHEGAL, A.V., inzhener, laureat Stalinskoy premii.

The SL-3 excavator used as an erecting crane. Mekh.stroi.11 no.9:
21-23 S '54. (MLRA 7:9)
(Cranes, derricks, etc.)

SHEGAL, A.V., inzhener, laureat Stalinskoy premii.

New methods of reconstructing blast furnaces. Stroi.prom. 32
no.7:16-20 J1 '54. (MIRA 7:7)
(Blast furnaces)

SHEGAL, A.V., laureat Stalinskoy premii

Installing steel structural elements in building open-hearth
plants. Stroi.prom.33 no.6:21-25 Je'55. (MLRA 8:10)
(Building, Iron and steel) (Metallurgical plants)

TISHCHENKO, Yefim Ivanovich; ZALKIND, Aleksandr Samoylovich; SHEGAL, A.V.,
red.; TSYMBALIST, N.N., red.izd-va; ZEF, Ye.M., tekhn.red.

[Dismantling of blast furnaces during reconstruction] Nadvizhka
domennyykh pechei pri rekonstruktsii. Sverdlovsk, Gos.nauchno-
tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, Sverdlovskoe
otd-nie, 1957. 95 p. (MIRA 11:3)
(Blast furnaces)

SHEGAL, A., inzh.

Bucket for working muddy ground. Na stroi. Mosk. 2 no.6:21
Ja '59. (MIRA 12:8)
(Excavating machinery--Equipment and supplies)

SHEGAL, A.V.

Building blast furnace No.5 of the Chelyabinsk Metallurgical Plant.
Prom. stroi. 37 no.1:39-45 Ja '59. (MIRA 12:1)

1. Zamestitel' glavnogo inzhenera tresta Uralstal'konstruktsiya.
(Chelyabinsk--Blast furnaces)
(Precast concrete construction)

SHEGAL, A.V., inzh.; LOGINOV, G.V., inzh.

Building a series of shops at the Ural Heavy Machinery Plant.
Prom.stroi. 39 no.8:6-9 '61. (MIRA 14:9)
(Sverdlovsk--Precast concrete construction)

SHEGAL, A.V., inzh.; PEREMETOV, B.V.

Construction of an open-hearth plant with large-capacity furnaces.
Prom.stroi. 40 no.6:5-3 '62. (MIRA 15:6)
(Magnitogorsk—Open-hearth furnaces)

CHUVATOV, V.V.; BEREZIN, N.N.; METSGER, E.Kh.; NAGIN, V.A.; KARTASHOV, N.A., kand. tekhn. nauk, dots.; MIL'KOV, N.V., kand. tekhn. nauk; BYCHKOV, M.I., kand. tekhn.nauk, dots.; SUKHANOV, V.P., SHLYAPIN, V.A.; KORZHENKO, L.I.; ABRAMYCHEV, Ye.P.; KAZANTSEV, I.I.; YARES'KO, V.F.; LUKOYANOV, Yu.N.; DUDAROV, V.K.; BALINSKIY, R.P.; KOROTKOVSKIY, A.E.; PONOMAREV, I.I.; NOVOSEL'SKIY, S.A., kand. tekhn.nauk, dots.; IL'INYKH, N.Z.; TSITKIN, N.A.; ROGOZHIN, G.I.; PRAVOTOROV, B.A.; ORLOV, V.D.; RACHINSKIY, M.N.; KULTYSHEV, V.N.; SMAGIN, G.N.; KUZNETSOV, V.D.; MACHERET, I.G.; SHEGAL, A.V.; GALASHOV, F.K.; ANTIPIN, A.A.; SHALAKHIN, K.S.; RASCHIKTAYEV, I.M.; TISHCHENKO, Ye.I.; FOTIYEV, A.F.; IPPOLITOV, M.F.; DOROSINSKIY, G.P.; ROZHKOV, Ye.P.; RYUMIN, N.T.; AYZENBERG, S.L.; GOLUBTSOV, N.I.; VUS-VONSOVICH, I.K., inzh., retsenzent; GOLOVKIN, A.M., inzh., retsenzent; GUSELETOV, A.I., inzh., retsenzent; KALUGIN, N.I., inzh., retsenzent; KRAMINSKIY, I.S., inzh., retsenzent; MAYLE, O.Ya., inzh., retsenzent; OZERSKIY, S.M., inzh., retsenzent; SKOBLO, Ya.A., dots., retsenzent; SPERANSKIY, B.A., kand. tekhn. nauk, retsenzent; SHALAMOV, K.Ye., inzh., retsenzent; VOYNICH, N.F., inzh., red.; GETLING, Yu., red.; CHERNIKHOV, Ya., tekhn. red.

[Construction handbook] Spravochnik stroitelia. Red.kollegiia: M.I. Bychkov i dr. Sverdlovsk, Sverdlovskoe knizhnoe izd-vo. Vol.1. 1962. 532 p. Vol.2. 1963. 462 p. (MIRA 16:5)
(Construction industry)

SHMAL, A.V.

Mounting structural elements of an oxygen-blown converter assembly
plant. Prom.stroi. 41 no.9:2-6 3 '63. (MIRA 16:11)

SHEGAL, G., inzh.; NEFEDOV, V., inzh.

Using industrial methods in sanitary-engineering and
electric-wiring operations. Zhil.stroi. no.8:18-19
'60. (MIRA 13:8)

(Sanitary engineering)

(Electric wiring)

SHEGAL, Genrikh L'vovich; KUZNETSOV, N.A., red.; BORUNOV, N.I., tekhn. red.

[Electric executive mechanisms] Elektricheskie ispolnitel'nye me-
khanizmy. Moskva, Gos. energ. izd-vo, 1961. 95 p. (Biblioteka po
avtomatike, no.32) (MIRA 14:10)
(Electric controllers) (Servomechanisms)

SHEGAL, G.I., inzh.; FRIDMAN, V.Ye., inzh.

Certain problems encountered in the overall automation of large
thermal electric power plant. Elek.sta. 33 no.1:10-13 Ja '62.
(MIRA 15:3)

(Electric power plants)(Automatic control)

ACC NR: AM6014345

Monograph

UR/

Mironov, Konstantin Andreyevich; Khatsyanov, Feliks Grigor'yevich;
Shegal, Genrikh L'vovich; Shipetin, Lev Iosifovich; Yanovskiy, Petr
Ilyarionovich

Technology of automatic control systems design; reference materials
(Tekhnika proyektirovaniya sistem avtomatizatsii; spravochnyye
materialy) Moscow, Izd-vo "Mashinostroyeniye", 1966. 702 p.
illus., biblio., tables. Errata slip inserted. 16,500 copies printed.

TOPIC TAGS: automation, automatic control, electric control system,
pneumatic control system, automatic control design, automatic control circuit

PURPOSE AND COVERAGE: This book is intended for technical personnel
concerned with the planning of automation systems for technological
processes. It can also be useful to students at schools of higher
technical education and technical schools. The book contains docu-
mentary references concerning the design of automation systems and
gives examples of projects based on the plans, norms, and manuals
of the leading design organizations of the USSR. In addition to the
above, the book contains recommendations regarding the selection of
means of automation, methods of designing control, signaling, and

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UDC 658.52.011.06 001.12

automatic regulation circuits, the arrangement of control panels, methods of computing automatic regulation systems, choke-adjustment units, and the tapered devices of flow-meters. Data on the equipment and assembly materials used in the systems for automation control and regulation of technological processes are presented.

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SUB CODE: 13/ SUBM DATE: 18Nov65/ ORIG REF: 121/ OTH REF: 003

Card 9/9

SHEGAL', N.

Two years of work with new teaching methods. Avt.transp. 39
no.3:47-48 Apr '61. (MIRA 14:3)

1. Gor'kovskiy avtodorozhnyy tekhnikum.
(Highway transport workers--Education and training)

1961, 1.

"Paper on the Mathematical Principles of Maximum Entropy."
Entropy 1 (1961), p. 11, 1961.

ZYABREVA, Nina Nikolayevna, kandidat tekhnicheskikh nauk, dotsent; ~~SHEGAL~~,
Mirza Yakovlevna, kandidat tekhnicheskikh nauk; ZHURAVLEV, A.N.,
kandidat tekhnicheskikh nauk, dotsent, retsenzent; IVANOV, A.G.,
kandidat tekhnicheskikh nauk, dotsent, redaktor; MODEL', B.I.,
tekhnicheskiiy redaktor

[Laboratory exercises for the course "Interchangeable parts and
technical measurement."] Laboratornye zaniatiia po kursu "Osnovy
vzaimozameniaemosti i tekhnicheskie izmereniia." Izd. 2-oe, ispr.
i dop. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry,
1956. 335 p. (MIRA 10:1)

(Physical measurements) (Engineering instruments)

AUTHOR: Snegal, M.Ya., Candidate of Technical Sciences 28-58-3-7/39

TITLE: Practical Application of Standards in the Tolerances of Gear Transmissions (K praktike primeneniya standartov na dopuski zubchatykh peredach)

PERIODICAL: Standartizatsiya, 1958, Nr 3, pp 27-29 (USSR)

ABSTRACT: From 1 Jan 1959, the industry begins the inspection and acceptance of gear wheels and worm gear pairs in accordance with the 1643-56, 1758-56, and 3675-56 "GOST" standards. The new standards require additional comments, as they are not familiar to technicians. TsNIITMASH has issued "Instructions for the Application of GOST to the Tolerances of Spur, Bevel, and Worm Gear Transmissions". The article treats problems arising at the accuracy inspection required by the "GOST 1643-56", which regulates the kinematic accuracy of gears, the smoothness of work, and the tooth contact. It is mentioned that checking devices for one-profile checks are now in the assimilation stage. The standardization of the tolerances of measuring gears for checking narrow helical, bevel, and worm gears, and the industrial production of such measuring gears must be started soon. There is 1 table.

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1. Gear transmissions---Standards

PLATE I BOOK EXPLANATION

007/126

known. Measurement systems technology is the main direction of development of technical sciences in the USSR. The book is devoted to the problems of measurement in the USSR. It is a collection of articles by leading specialists in the field of measurement. The book is intended for specialists in the field of measurement and for those who are interested in the problems of measurement.

Additional Publishing Agency: Moscow. Gostizdatmash, 1979. 112 p. (Series: Measurement systems technology. No. 1). Printed in the USSR. 3,000 copies printed.

Editorial Board: A. I. Tikhonov, Doctor of Technical Sciences, Professor, V. I. Volodko, Candidate of Technical Sciences, Professor, and K. B. Gerasimov, Candidate of Technical Sciences, Professor. The book is a collection of articles by leading specialists in the field of measurement. The book is intended for specialists in the field of measurement and for those who are interested in the problems of measurement.

FOREWORD: The book deals with trends in the development of basic problems of interconnectivity. Existing measuring equipment in the USSR and other countries is described. Some design and utilization problems in the use of conventional and automatic measuring devices are outlined. Detailed information is given to methods and equipment for technical and scientific control and control of the geometry and surface roughness of parts. The book is intended for specialists in the field of measurement and for those who are interested in the problems of measurement.

1. V. Volodko, Candidate of Technical Sciences, Professor, Methods of Calculating Tolerances for Center Distances of Holes in Clutch Plates and Drifts in Elements of Paper Tapering 70

2. K. B. Gerasimov, Candidate of Technical Sciences, Professor, Statistical Compensations for Deviations in Elements of Paper Tapering 93

3. V. I. Volodko, Candidate of Technical Sciences, Professor, On the Use of Combined Fits in Elements of Paper Tapering 104

4. V. I. Volodko, Candidate of Technical Sciences, Professor, Improvement of Surface Finish by Comparison With Samples 111

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6. V. I. Volodko, Candidate of Technical Sciences, Professor, On the Calculation of Errors in Measurements with VIM, BCT, and BP-Type Optical-Mechanical Instruments 134

7. V. I. Volodko, Candidate of Technical Sciences, Professor, Investigation of Precision-Control Devices for Checking Journal Diameters During Polishing With Variable Volumes 155

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9. V. I. Volodko, Candidate of Technical Sciences, Professor, On Methods of Statistical Control With Averaging of Measurement Data 177

10. V. I. Volodko, Candidate of Technical Sciences, Professor, On the Control of Parts With Variable Volumes 211

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12. V. I. Volodko, Candidate of Technical Sciences, Professor, On the Control of Parts With Variable Volumes 239

ZYABREVA, N.N., kand. tekhn.nauk, dots.; SHEGAL, M.Ya., kand. tekhn.
nauk, dots.; DVORETSKIY, Ye.R., kand. tekhn. nauk, retsenzent;
TISHCHENKO, C.F., prof., doktor tekhn. nauk, red.; IVANOVA,
N.A., red.izd-va; SOKOLOVA, T.F., tekhn. red.; TUKHANOV, A.Ya.,
tekhn. red.

[Problems and examples for a course on the principles of inter-
changeability and technical measurements] Sbornik zadach i pri-
merov po kursu "Osnovy vzaimozameniaemosti i tekhnicheskie iz-
mereniia." Moskva, Mashgiz, 1963. 280 p. (MIRA 16:5)
(Interchangeable mechanisms)

MARICHEV, R.D., inzh., SHEGALOV, I.I., inzh.

Nomographs for mechanical calculation of wires and electric transmission cables. Elek. sta. 31 no.3:49-55 Mr '60.

(MIRA 13:8)

(Electric lines--Overhead)

MARICHEV, R.D., inzh.; SHEGALOV, I.L., inzh.

New data sheets for longitudinal side view of overhead electric
power transmission lines. Elek. sta. 31 no.9:35-37 S '60.
(MIRA 14:10)

(Electric power distribution)
(Electric lines--Overhead)

NIKULIN, M.A., dotsent; SHEGALOV, I.L., inzh.

Efficiency of the operation of the primary motor of a diesel locomotive.
Trudy LIIZHT no.175:56-65 '61. (MIRA 15:12)
(Diesel locomotives)

ACCESSION NR: AR4041525

S/0271/64/000/005/A037/A037

SOURCE: Ref. zh. Avtomatika, telemekhanika i vy*chislitel'naya tekhnika.
Svodny*y tom, Abs. 5A224

AUTHOR: Nikulin, M. A.; Shegalov, I. L.

TITLE: Theory and mathematical simulation of optimum control of autonomous power systems

CITED SOURCE: Sb. tr. Leningr. in-t zh.-d. transp., vy*p. 205, 1963, 132-145

TOPIC TAGS: optimum control, power circuit, power system, diesel locomotive, mathematical simulation

TRANSLATION: Considered is the theory and simulation of optimum control and adjustment of power circuit of a diesel locomotive. It is maintained that methods of calculus of variation are unfit for finding the optimum equation of the power circuit of a diesel locomotive inasmuch as solution of the problem to a large degree depends on factors which have random character and, therefore, ap-
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ACCESSION NR: AR4041525

plication of probability methods is expedient. The most universal criterion is considered the average efficiency of entire power circuit of a diesel locomotive during the time of work T for a portion of run. Expression for fuel consumption in relation to average efficiency may be presented in the form:

$$G = a_0 + a_1 \eta_{KAV} + a_2 \eta_{KAV}^2 + a_3 \eta_{KAV}^3$$

Coefficients of the equation can be found by graphic or analytic method during solution of equation of motion through run at a given value of the weight of the train and time of motion. During solution of problem, with use of experimental trips, processing of data is conducted by methods of correlation analysis. Optimum value of η_{KAV} is found from equation $dG/dt = 0$. There are offered mathematical models taking into account the characteristics of a diesel engine, supercharger, fuel and pressure indicators, and also actuating mechanisms which allow us to select optimum conditions for running the train and an optimum method of control of fuel consumption with little expenditure of additional time. Offered method may be applied to any autonomous power systems without essential changes. Four illustrations, Bibliography: 8 references.

SUB CODE: MA, IE

ENCL: 00

Card 2/2

SHEGALOV, L. A.

Late roentgenokymographic observations following myocardial infarction. Terap. arkh. 30 no.12:19-22 D '58. (MIRA 12:1)

1. Iz Leningradskogo kardiologicheskogo sanatoriya (nauchnyy rukovoditel' prof. M.I. Khilivitskaya).

(MYOCARDIAL INFARCT, physiol.

roentgenokmography in convalescence (Rus))

(KYMOGRAPHY,

roentgenokymography in convalescence in myecardial infarct (Rus))

BILYNSKIY, B.T.; SHEGBDIN, Yu.I.

Myoblastic myoma simulating recurrence of cancer of the breast;
one observation. Vop. onk. 11 no.4:101-102 '65.

(MIRA 18:8)

1. iz kafedr obshchey khirurgii (zav. - prof. A.I.Gratyskay) i
patologicheskoy anatomii (zav. - prof. Ye.I.Pal'shevskiy) L'vov-
skogo gosudarstvennogo meditsinskogo instituta na baze oblasti
klinicheskoy bol'nitsy (glavnyy vrach - N.I.Basedin).

OYVIN, I.A.; BALUDA, V.P.; SHEGEL, S.M.; TOKAREV, O.Y.; VENGLINSKAYA, E.A.;
YAGODKINA, E.G.

Anticoagulant and antiphlogistic properties of phlogodym
(neodymium pyrotechol disulphonate). Acta physiol. acad. sci.
Hung. 24 no.3:373-379 '64

1. Department of Pathological physiology, Kuban Medica. Insti-
tute, Krasnodar, USSR.

*

BOLGTOV, V.V.; GERASTINOV, V.N.; GOFMAN, I.V.; KAMENSKIY, M.D.;
MELENT'YEV, L.A.; PRITSEV, A.A.; USOV, S.V.; SHEGLOV, A.P.

Suren Nikolaevich Nikogosov; obituary. Elektrichestvo no.10:
93 G 160. (MIRA 14:9)
(Nikogosov, Suren Nikolaevich, 1900-1960)

VARSHAVSKIY, Ya.M., doktor khim.nauk, red.; GEL'BSHTEYN, A.I., kand.
khim.nauk [translator]; SHUB, D.M., kand.khim.nauk [translator];
SHEGLOV, O.F., kand.khim.nauk [translator]; ARNOL'DOV, V.V., red.;
IOVLKVA, N.A., tekhn.red.

[Catalytic, photochemical, and electrolytic reactions] Katali-
ticheskie, fotokhimicheskie i elektroliticheskie reaktsii. Moskva,
Izd-vo inostr.lit-ry, 1960. 436 p. Translated from the English.
(MIRA 13:11)

(Chemical reactions)

SHEGINSKIY, B.

Our strength is in group work. Mast.ugl. 9 no.2:6 F '60.
(MIRA 13:7)

1. Nachal'nik ~~uchastka~~ shakhty No.4 "Novo-Volynskaya" L'vovskogo
sovnarkhoza.

(Lvov-Volyn' Basin--Coal mines and mining)

SHEGLOV, P. V.

" Temperatures and particle heating in the auroral atmosphere "
Report to be submitted at the IAU and IUGG Symposium on
Theoretical Interpretation of Upper Atmosphere Emissions, Paris
France, 25-29 June 1962

1. State Astronomical Institute imeni P. K. Shternberg, Moscow.

3(1) PHASE I BOOK EXPLOITATION SOV/1840

Vsesoyuznoye astronomo-geodeticheskoye obshchestvo
Astronomicheskii kalendar; Yezhegodnik. Pervennaya chast'; 1959
(Astronomical Calendar; Yearbook. Variable Part; 1959) Moscow,
Pis'matgiz, 1958. 370 p. 5,500 copies printed.

Ed.: I.Ye. Rakhlin; Tech. Ed.: S.M. Akhlanov; Editorial Board:
F.I. Bakulin (Resp. ed.), S.O. Kulagin, A.G. Masevich, and
P.P. Parenago.

PURPOSE: This astronomical calendar is intended for specialists in
astronomy, astrophysics, and geophysics.

COVERAGE: The book is divided into two parts. The first, based on
data taken from the USSR Astronomical Yearbook for 1959, consists
of ephemerides and accompanying text, compiled and written by the
following specialists: S.O. Kulagin and L.D. Kovbasyuk of the
GAGO (State Astronomical and Geodetic Society) - notes on the
ephemerides, the ephemerides of the Sun and Moon; M.M. Bogaya
of the MOYGO (Moscow Branch of the All-Union Astronomical and
Geodetic Society) - text and maps of the visible trajectories of
the planets, text and maps of eclipses, the physical coordinates
Card 1/10

of the Sun, Moon, Mars, and Jupiter, the satellites of Jupiter
and Saturn; N.D. Rosenblyum (MOYGO) - ephemerides and helio-
centric longitudes of planets; I.P. Yegorchenko, A.A. Kargin,
Z.G. Konstantinov, V.A. Kuklina, G.V. Kuklin, Z.O. Sezonov,
L.I. Chernykh, and S. Chernykh - data on 14 points in the
USSR for the full solar eclipse of October 2, 1959; Ye.O. Besko-
vich (GAGO) - occultation of the stars and planets by the Moon.
Observation of the Polaris star, computation of stellar coordinates;
V.A. Bronshteyn (MOYGO) - stars, computation of stellar coordinates;
planets; and, M.B. Perova (MOYGO) - variable stars. The second
part, the Supplement, contains a review of the achievements in
astronomy for the years 1956 and 1957, written by V.A. Bronshteyn,
and I.S. Shcherbina-Savoylova under the editorship of A.G. Masevich.
Articles on artificial satellites, the danger in astronautics from
meteors, the nature of galaxies, articles on scientific meetings
held in the Soviet Union and abroad, and articles on the anniver-
saries of events in astronomy. The book is profusely illustrated
with tables, maps, photographs, and diagrams. The Supplement
includes some 125 Soviet references grouped according to subject
matter and type of publication.

Card 2/10

Astronomical Calendar; Yearbook. Variable Part; 1959 SOV/1840
Joint Visiting Session of the Astronomical Council of the AN
SSUR and the Academy of Sciences of the Azerbaijan SSR
(N.A. Klyukoto) 271

This article treats the meeting at which M.M. Alliver,
A.V. Shargach, V.A. Yekovlev, S.K. Vakharyatskiy,
V.V. Shargach, W.P. Shoptalov, Z.I. Khalilov, V.A. Arat,
and G.P. Sultanov participated.

The 350th Anniversary of the Formulation of Kepler's First
Two Laws (Yu.A. Ryabov) 275

This article is a historical account and discussion of
Kepler's first two laws.

The 85th Anniversary of the Tashkent Astronomical Observatory
(V.P. Shaglov) 286

This article provides a detailed historical account and
description of the Tashkent Astronomical Observatory of
the Academy of Sciences of the Uzbek SSR, the oldest scien-
tific research institution in Central Asia. The Observatory
Card 7/10

BALANDIN, A.A.; NEYMAN, M.B.; BOGDANOVA, O.K.; ISAGULYANTS, G.V.:
SHEGLOVA, A.P.; POPOV, Ye.I.

Investigation of the dehydrogenation of C^{14} labelled butane-
butylene mixtures. Izv. AN SSSR. Otd. khim.nauk no.2:157-165
F '57. (MLRA 10:4)

1. Institut organicheskoy khimii im. N.D.Zelinskogo i Institut
khimicheskoy fiziki Akademii nauk SSSR.
(Dehydrogenation' (Carbon--isotopes)
(Hydrocarbons)

L 18025-66 EWP(e)/EWT(m) WH
ACC NR: AP6007678

SOURCE CODE: UR/0413/66/000/003/0049/0049

INVENTOR: Demkina, L. I.; Shegalova, Z. N.

ORG: none

TITLE: Optical glass ^{1.44} Class 32, No. 178457 ¹⁵

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 3, 1966, 49

TOPIC TAGS: optic glass, barium containing optic glass

ABSTRACT: An Author Certificate has been issued for an optical glass based on P_2O_5 , B_2O_3 , BaO, and MgO. To obtain a low-crystallizability, γ -radiation-resistant glass with a high dispersion coefficient and increased dispersion in the blue part of the spectrum, the formulation used is: 27-34% P_2O_5 ; 9-13% B_2O_3 ; 45-50% BaO; 7-10% MgO, and in addition 0.5-1% CeO_2 . [SM]

SUB CODE: 11/ SUBM DATE: 04Jan65/ ATD PRESS: 4212

Card 1/1 vmb

UDC: 666.112.92:546.18
666.221.3

SHENGOLEV, D. E.

Eclipses, Lunar - 1952

Photographic photometry of the penumbra of the lunar eclipses of September 26, 1950, February 11, 1952 and August 5, 1952. Astron. tsir. no. 131, 1952.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

L 43047-65 ENT(m)/EPA(w)-2/EWA(m)-2 Pab-10/Pt-7 IJP(c) GS

ACCESSION NR: AT5007917

S/0000/64/000/000/0137/0145

AUTHOR: Barabash, L. Z.; Veselov, M. I.; Gol'din, L. L.; Zenkevich, P. R.;
Pligin, Yu. S.; Sivkov, Yu. P.; Talyzin, A. N.; Shegoley, V. A.

TITLE: Survey report: operation of the 7-Gev proton synchrotron of the ITEP

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963. Trudy.
Moscow, Atomizdat, 1964, 137-145

TOPIC TAGS: high energy accelerator

ABSTRACT: Operation of the 7-Gev accelerator for the period from September 1962 to May 1963 is discussed. The accelerator was run continuously from 9 a.m. Tuesday to 8 a.m. Saturday, i.e. 95 hours a week. On Saturday and Monday, preventive maintenance operations are carried out on the magnet and experimental rooms and on the accelerator itself. During the indicated period, the accelerator produced beams for physics experiments during 32% of the operating time and was used for 21% of the time for investigative studies on itself. Thus, the full useful time represented 53% of the calendar time. As for the physics experiments, the operations were directed mainly on two or three targets; here, the particles were distributed among three or four installations working independently. In the case of the

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L 43087-65

ACCESSION NR: AT5007917

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Investigations on the accelerator itself, studies were made on the various operational conditions, the form and behavior of the equilibrium orbit, the frequencies of betatron oscillations, the entrapment of particles during acceleration, the effectiveness of fast and slow targets, methods of operating on several targets, etc. At the beginning of the indicated period, the frequency of recurrence was 10 cycles a minute. In mid January it increased to 12 cycles a minute, and at the present time work is being conducted on enhancing it further. The forms of the operating magnetic cycle are discussed. The main work at present is conducted in the case of the trapezoidal form, since introduction of the flat portion sharply enhances the mean power and forces a lowering of the frequency of recurrence of cycles. Transition to the trapezoidal cycle is effected by regulation of the excitation current in the main generator. In the case of the triangular form of the cycle, the current in the magnetic blocks increases linearly for 1.57 seconds from 0 to 2.4 kiloamperes. The inverter state is held for 0.78 second. The variation of the mean (averaged over a week) current strength of the beam of accelerated particles for the indicated period is discussed. The observed beam intensity (about $1.5 \cdot 10^{10}$ particles per pulse) is determined by the main injector, which injects $(7-8) \cdot 10^{10}$ particles into the accelerator. Work is going on at present to increase the number of injected particles and also the coefficient of capture. The

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L 430d7-65

ACCESSION NR: AT5007917

kinetic energy of the protons at the end of the cycle is 7.3 GeV. 31 beam observation stations are now used. Orig. art. has 10 figures, 7 formulas, 3 tables

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki GKAE SSSR
(Institute of Theoretical and Experimental Physics, GKAE SSSR)

SUBMITTED: 26May64

ENCL: 00

SUB CODE: NP

NO REF SOV: 006

OTHER: 002

am
Card 3/3

<p>776. Velocity of Medium Radio Waves near the Earth's Surface. C. Viller and E. Schegolev. <i>Techn. Phys., U.S.S.R.</i> 4, 10, pp. 787-826, 1937. In English. --The technique of measuring the velocity of electromagnetic waves by the interference method of Mandelstam and Papalexi [see the preceding Abstract] is described in detail and results are given of measurements carried out between 1933 and 1936, particular attention being paid to the examination of all the test conditions and to the analysis of possible errors. The experimental results obtained under conditions approaching propagation in free space, as well as over sea, show that very steady interference phenomena between radio waves of a rational frequency ratio (can be realized) even for transmissions over considerable distances. Variations in the phase angles observed in certain experiments, which might be due to variation of the velocity of propagation, did not exceed a few degrees for most of the distances studied, so that the velocity is considered to remain constant to within at least 1 part in 10^4. The velocity under conditions approaching propagation in free space, and also over the surface of water, approaches closely to that of light in air, the mean of 8 results being 2.994×10^8 km./sec. In the case of propagation close to the earth's surface the velocity depends materially on the local conditions. It is in this case important to distinguish between the true reduction in velocity and the apparent reduction, which depends on the lengthening of the path of the waves due to various deviating influences. It appears probable that the method employed is capable, with better apparatus, of giving more accurate results than those hitherto obtained.</p> <p style="text-align: right;">A. W.</p>																									
<p>SA B 64 0</p>																									
<p>ASD SCA METALLURGICAL LITERATURE CLASSIFICATION</p>																									
<p>13300 B00187</p>																									

B 64
0

789. Measurement of Phase Difference Between Harmonic Oscillations of Different Frequencies. E. Schegolev. *Techn. Phys., U.S.S.R.* 4, 10, pp. 827-840, 1937. In English.—The problems connected with the measurement of phase differences between oscillations of different frequencies have lately acquired a certain practical importance especially in connexion with the application of the phenomena of interference of radio waves to the solution of certain scientific and engineering problems. The main practical method used to determine the difference of the phase angles in the case in question is by Lissajous' figures, but when using this method, or any other method, certain underlying assumptions have to be made. Accordingly, this paper deals first with certain fundamental definitions, and then describes some of the methods used by the author for measuring phase angles of oscillations having a rational frequency ratio.

AUTHOR.

430.564 METALLURGICAL LITERATURE CLASSIFICATION

FROM DIVISION (GROUP) REF ONLY UNIT

CLASSIFIED BY 001137 ONE ONLY 151

USSR / General and Special Zoology. Insects. Harm-
ful Insects and Mites. Fruit and Berry Crop
Pests.

Abstr Jour: Ref Zhur-Biol., No 1, 1959, 2346.

Author : Zhegoleva, G. I.

Inst : The All-Union Scientific Research Institute of
the Canning and Dry Vegetables Industry.

Title : The Stem Gall Midge is a Dangerous Pest of the
Currant and the Gooseberry.

Orig Pub: Referaty nauchn. rabot. Vses. n.-i. in-t kon-
servn. i ovoshche-sush. prom-sti, 1957, vyp. 4,
117-119.

Abstract: The large-scale appearance of the midge gall
(G) on the Moscow station of the All-Union
Scientific Research Institute of the Canning
and Dry Vegetables Industry was observed for

Card 1/3

USSR / General and Special Zoology. Insects. Harm-
ful Insects and Mites. Fruits and Berry Crop
Pests.

Abs Jour: Ref Zhur-Biol., No 1, 1959, 2346.

Abstract: clear-winged moth, 34% had mechanical damages,
while 54% were only damaged by G. 58% of the
stems were infected in the lower part, 36% at
the base and 6% in the upper part. Pruning in
the fall and subsequent burning of the branches
(with the larvae) and applying of hexachloro-
cyclohexane to the soil in March-April should
decrease the number of G, when they emerge
from hibernation. -- A. P. Adrianov.

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L-15223-65 EEC(b)-2/EPF(c)/EPR/EPA(s)-2/EWP(j)/EWT(1)/EWT(m)/EEC(t)/T
Pc-4/Pl-4/Pr-4/Ps-4/Pt-10 IJP(c) GG/RM/WW

ACCESSION NR: AP4044918

Z/0017/64/053/009/0480/0485

AUTHOR: Veverka, Antonin (Professor, Engineer, Doctor of sciences);
Hon, Alois (Engineer, Candidate of sciences); Shehata, M. A.
(Engineer, Bachelor of sciences)

TITLE: Results of experiments on discharges in the cavity of a
homogeneous dielectric

SOURCE: Elektrotechnicky obzor, v. 53, no. 9, 1964, 480-485

TOPIC TAGS: homogeneous dielectric, cavity, capacitance model,
plexiglass

ABSTRACT: Previous analyses of discharge processes in dielectric
cavities have been based upon the well-known capacitance model.
However, there are few experimental results to verify the theoretical
conclusions which follow from this model. The present study was
conducted on a homogeneous (non-laminated) dielectric with a single
cavity. The objects were prepared from three plexiglass plates
7 x 7 cm in area and 0.7 mm thick, one of which contained an opening

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ACCESSION NR: AP4044918

4.0, 5.0 or 7.0 mm in diameter. This plate was inserted between two solid plates, and the three were joined together to form a sealed cavity. The object was connected to aluminum-foil electrodes and was fed from a high-voltage transformer. The experiments showed that 1) in the extreme case, the charge supplied by the source to the object with the sealed cavity after discharge in the cavity is associated with the complete discharge of the opposite surfaces of the cavity; and 2) the charge supplied by the source to the laminated object after discharge approaches, in the extreme case, double the value of the charge supplied at complete discharges of the opposite surfaces of the cavity. Orig. art. has: 18 figures and 33 formulas.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: EM, ME

NO REF SOV: 000

OTHER: 003

Card 2/2

SHEHU, I.; GOSHI, N.

SHEHU, I.; GOSHI, N. Good use of machinery. p. 21.

Vol. 9, No. 12, Dec. 1955, PER BUJQESINE SOCIALISTE, Tirane, Albania.

S0: Monthly List of East European Accessions, (EEAL), LC, Vol. 5, No. 10, Oct. 1956.

CHINA, 11.

Reports on the achievements of the first Five-Year Plan and directives for the second Five-Year plan on economic and cultural development of Albania, p.8, PAR BUJQESINE SOCIALISTE. (Ministrie e Bujqesise) Tirane. Vol. 10, No.6, June 1956

Source: East European Accessions List. (EEAL) Library of Congress, Vol. 5, No. 12, December 1956

USHEK, B.A.; SHEIDER, G.F.

Stratigraphy and correlation of Quaternary sediments in the
central part of the northwestern Caspian Sea region. Trudy
NIIneftegaza no.13:54-67 '65. (MIRA 18:9)

S/653/61/000/000/009/051
I060/I260

AUTHOR: Sheidman, I.Yu.

TITLE: Plastic materials in foreign aviation technique

SOURCE: plastmassy v mashinostroyenii i priborostroyenii. Pervaya respublikanskaya nauchno-tekhnicheskaya konferentsiya po voprosam primeneniya plastmass v mashinostroyenii i priborostroyenii, Kiev, 1959. Kiev, Gostekhizdat, 1961, 85-94

TEXT: High mechanical strength, thermal and chemical stability, required of various parts of supersonic planes and rockets, led to development of reinforced plastics, foam plastics, transparent, and chemically stable plastics. The article describes mechanical and thermal properties of reinforced glass fibers and fabrics, and of quartz fabrics developed by foreign aviation industry. In particular are mentioned the asbestos plastics of "Raibestos", "Dilecto" and "Celeron" of Continental Daynami Fiber, Astrolite of Thomson Fiber Glass, and

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S/653/61/000/000/009/051
I060/I260

Plastic materials in....

British Refrasil. Author mentions various types of foam plastics based on polystyrene, polyvinylchloride, phenol-formaldehyde, phenol-synthetic rubber etc., as well as the new polyurethane and silicoorganic polymers like meltoprene and porolan. Polymethylmethacrylate plasticized by dibutylphthalate are used for windows in planes. Chlorinated polyethylene and fluoroplasts are used for parts which have to resist the aggressive activity of oxidants. There are 2 figures and 3 tables.

Card 2/2

TOSHKOV, As.; SHEIKOVA, G.

Effect of chlortetracycline on the fixation activity of the reticuloendothelial system in mice. III. Izv. mikrobiol. inst. (Sofia) 13: 65-71 '61.

(CHLORTETRACYCLINE pharmacol)

(RETICULOENDOTHELIAL SYSTEM pharmacol)

17
BULGARIA

As. TOMKOV, G. ONEIKOVA and D. STRASHILOV, NIEM [Nauchen Institut fo
epidemiologii i mikrobiologii, Scientific Institute for Epidemiology
and Microbiology] and VIK [Abbreviation not identified] Military
Hospital (Vozna bolnitsa pri VIK), Director (direktor) of NIEM: VL.
KALAIODZHIEV; Head (nachalnik) of Military Hospital T. IVANOV.

"Studies With Penicillin-Resistant Staphylococci."

Sofia, Skriptor, Vozna Bolnitsa i Morfologiya, Vol 1, No 3, 1961;
pp 27-31.

Abstract [English summary modified]: Study of 28 penicillin-resistant
and 28 sensitive Staph. aureus strains, all clinical coagulase-positive
isolates: type of hemolysis, fibrinolysis, phosphatase, catalase,
mannite, gelatine, egg yolk, pigment formation, dehydrogenase,
necrotizing property. Results lead to conclusion that pen. res.
resistance acquisition is correlated with complex changes of the
enzymatic activity as well as pathogenicity regardless of the presence
of the antibiotic. Three tables. 2 Bulgarian and 3 Western refs.

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